

JVC

SERVICE MANUAL

STEREO CASSETTE DECK

MODEL TD-X102 A/B/C/E/G/U/V

This model TD-X102 is a version of the model KD-X1.

When servicing the model TD-X102, refer to the Service Manual for the model KD-X1 (No. 4243), please.

Comparison Table

△ parts are safety assurance parts. +381

When replacing those parts, make sure to use the specified one.

△	Ref. No.	Parts No.		Parts Name	Remarks	Q'ty
		TD-X102	KD-X1			
	Enclosure Assembly Parts List					
	10	VJC2171-009	VJC2171-001	Rear Panel	A/B/C/E version	1
	"	" -010	" -002	"	U version	1
	"	" -011	" -003	"	G/V version	1
	11	SDST3006M	SDST3006N	Screw	for Rear Panel	2
	12	SDSP3008M	SDSP3006N	"	U version, for V. Selector	2
△	14	QMP7380-200	QMP7600-200	Power Cord	U version	1
△	16	VTP52G2-021B	VTP54N2-021B	Power Transformer	U version	1
	22	SDSF3008M	SDSF3008N	Screw	for Pin Jack	1
	24	VJC1418-002	VJC1418-007	Front Plate		1
	26	VJC1417-013	VJC1417-011	Front Panel	except J version	1
	29	VXP3131-002	VXP3131-001	Power Knob		1
	33	E72968-001	E70913-001	Mark		1
	45	VJD4895-008	VJD4895-001	Plate		1
	51	VXP3129-013	VXP3129-008	Push Button	for Play	1
	52	" -014	" -009	"	for REW	1
	53	" -015	" -010	"	for FF	1
	54	" -016	" -011	"	for Stop/Eject	1
	55	" -017	" -012	"	for Pause	1
	61	VJC2175-005	VJC2175-002	Top Cover		1
	64	VYN2200-003PA	VYN2176-003PA	Name Plate	A version	1
	"	" -002PA	" -002PA	"	B version	1
	"	" -004PV	" -004PV	"	C version	1
	"	" -005PA	" -005PA	"	E version	1
	"	" -007PA	" -007PA	"	U version	1
	"	" -008PA	" -008PA	"	G version	1
	"	" -009PA	" -009PA	"	V version	1
	24, 26, 28, 33, 34, 49	ZCTDX102□-FBK	ZCTDX1□-FBK	Front Panel Ass'y		1
	43, 45-47	ZCTDX102□-CH	ZCTDX1□-CH	Cassette Holder Ass'y		1

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.		Parts Name	Remarks	Q'ty
		TD-X102	KD-X1			
	Accessories	VNN2200-211 VNN2201-621 VNN2200-901	VNN0157-301 " -901 —	Instruction Book " "	B/E/G version A/C/U version V version	1 1 1
	Packing Parts List					
	1	VPC2200-002	VPC2141-002	Carton	B version	1
	"	" -003	" -003	"	A version	1
	"	" -004	" -004	"	C version	1
	"	" -005	" -005	"	E version	1
	"	" -007	" -007	"	U version	1
	"	" -008	" -008	"	G version	1
	"	" -009	—	"	V version	1

JVC

VICTOR COMPANY OF JAPAN, LIMITED.

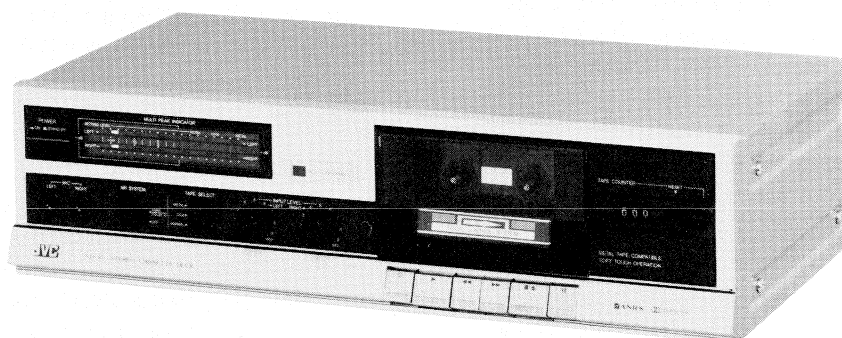
AUDIO PRODUCTS DIVISION MAEBASHI PLANT 10-1, 1-chome, Ohwatari-cho, Maebashi-city 371, Japan

JVC

SERVICE MANUAL

STEREO CASSETTE DECK

MODEL **KD-X1** A/B/C/E/
G/J/U



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Safety Precaution

1. The design of this product contains special hardware. Many circuits and components specially for safety purposes.
For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by (⚠) on the schematics and parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings barriers and/or the like to be separated from live parts, high temperature part, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.
When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after re-assembling.

5. Leakage current check

(Safety for electrical shock hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

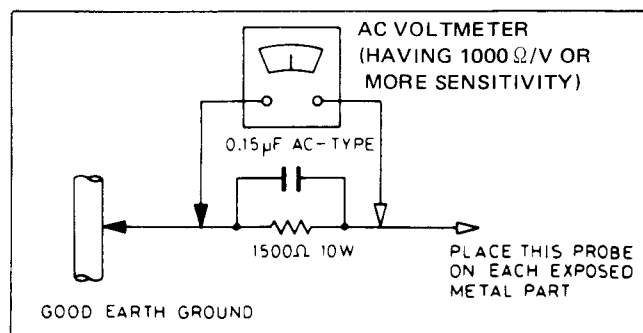
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5 mA AC (r.m.s.).
- Alternate check method.

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.).

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.).

This corresponds to 0.5 mA AC (r.m.s.).



Specifications

Type	: Stereo cassette deck	Harmonic distortion: K3; 0.5 %, THD; 1.0 % (metal tape, 1 kHz 0 dB)	
Track system	: 4-track, 2-channel	Heads	: METAPERM head for recording/play-back, 2-gap ferrite head for erasure
Tape speed	: 1-7/8 inch/sec (4.8 cm/sec)	Motor	: Electronic governed DC motor
Frequency response: (0 dB recording)		Fast forward / Rewind time	: Approx. 100 sec. with C-60 cassette
	Metal tape *1; 40—11,000 Hz (± 3 dB)	Input terminals	
	Chrome tape *2; 40—8,000 Hz (± 3 dB)	Mic jack x 2	: Max. sensitivity; 0.4 mV (—68 dBV) Matching impedance; 600 Ω — 10 k Ω
	Normal tape *3; 40—8,000 Hz (± 3 dB)	Input jack x 2	: Min. input level; 50 mV Input impedance; 100 k Ω
	(—20 dB recording)	Output terminals	
	Metal tape *1; 30 — 16,000 Hz 40 — 15,000 Hz (± 3 dB)	Output jack x 2	: Output level; 300 mV Output impedance; 5 k Ω
	Chrome tape, *2; 30 — 16,000 Hz 40 — 15,000 Hz (± 3 dB)	Power requirement	: AC 240 V, 50/60 Hz (KD-V120 A) AC 120 V, 60 Hz (KD-V120 C/J) AC 240/220/110 V, 50/60 Hz (KD-V120 U)
	Normal tape; *3; 30 — 15,000 Hz 40 — 14,000 Hz (± 3 dB)	Power consumption	: With power on; 10 W With power switch off; 0.8 W
Note: *1 . . .	JVC ME or Equivalent	Dimensions	: 17-1/8" (435 mm) W 4-9/16" (115mm)H 9-3/8" (237 mm)D
*2 . . .	TDK SA or Equivalent	Weight	: 7.7 lbs (3.5 kg)
*3 . . .	MAXELL UD or Equivalent	Accessories	: Pin plug cord...2
S/N ratio	: 58dB (S = 1 kHz, K3 = 3%, N = A-Weight, Metal tape) The S/N is improved by 5 dB at 1 kHz and by 10 dB above 5 kHz with ANRS/ DOLBY B NR on.	Design and specifications are subject to change without notice	
Wow and flutter	: 0.08 % (WRMS), 0.20 % (DIN 45 500)		
Crosstalk	: 60 dB (1 kHz)		

Location of Main Parts

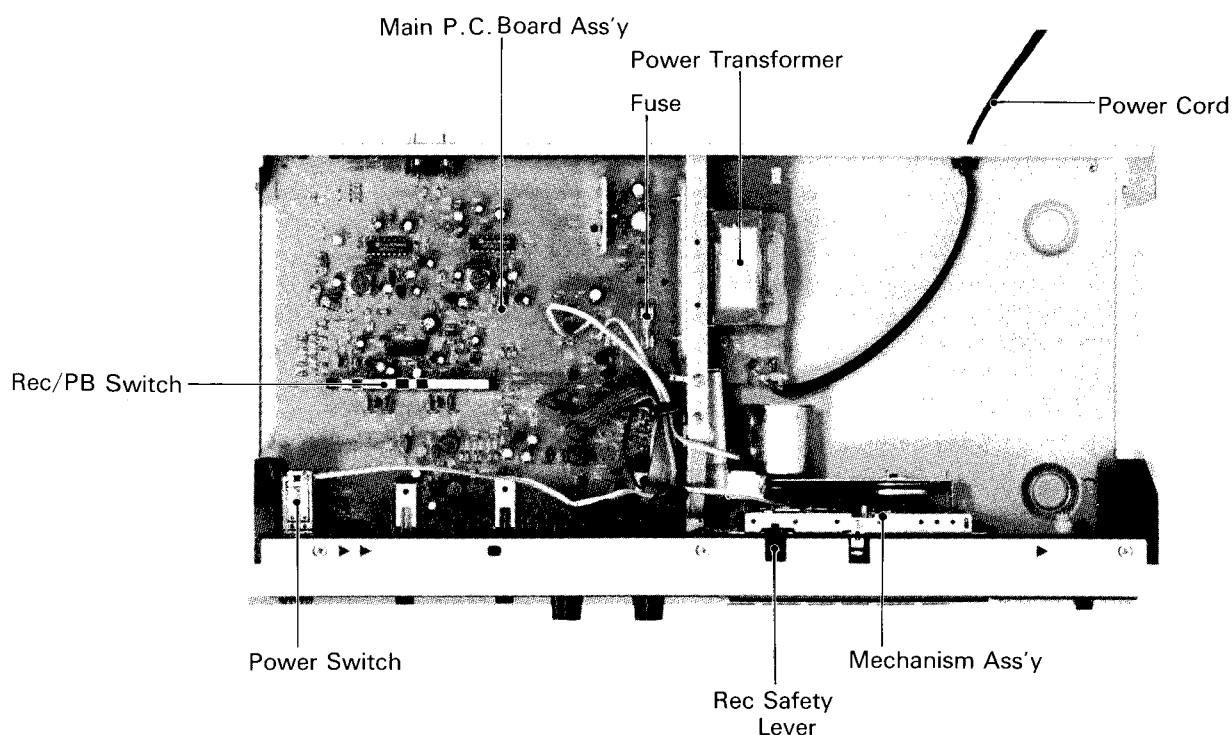


Fig. 1

Removal of Main Parts

Enclosure Section

■ Removal of Top Cover

1. Remove six screws retaining the both sides of the top cover.
2. Remove the screw retaining the back side of the top cover.

■ Removal of Bottom Cover

1. Remove three screws retaining the front side of the bottom cover.
2. Remove three screws retaining the rear side of the bottom cover.

■ Removal of Rear Panel

1. Remove three screws retaining the jack and chassis to the rear panel.

■ Removal of Front Panel

1. Remove the screw ① retaining the left side of the front panel.
2. Remove the screw ② retaining the bottom side of the front panel.
3. Remove the screw ③ retaining the earth wire with the mechanism ass'y.
4. Pull out two knobs.

■ Removal of Mechanism Ass'y

1. Remove the counter belt.
2. Remove three screws ④ retaining the mechanism ass'y.
3. Open the cassette door and remove the mechanism ass'y.

■ Removal of Tape Counter

1. Remove two screws ⑤.

■ Removal of Damper

1. Remove the screw ⑥.

■ Removal of Power Switch (See Fig.5)

1. Push the switch knob outward to remove it.
2. Push the switch ass'y in the direction of the arrow to remove it.

Note: When reinstalling the switch ass'y:

- 1) Set the switch to its ON position.
- 2) Fix it as shown in the right figure.
- 3) Set the knob to the switch.

■ LED Indicator

Remove five pawls ⑦ retaining the indicator board ass'y.

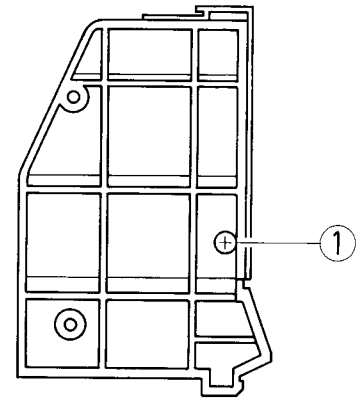


Fig. 2

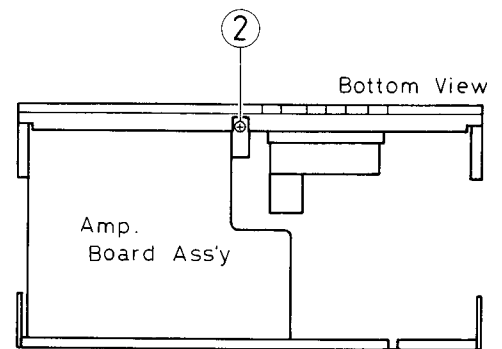


Fig. 3

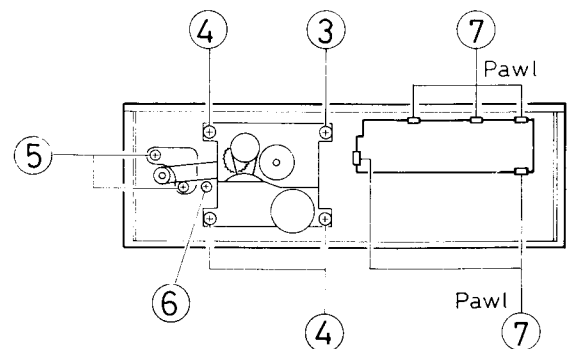


Fig. 4

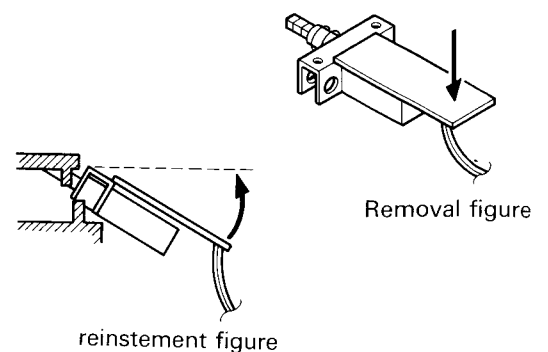


Fig. 5

Mechanism Section

Mechanical parts

• Rec./PB head

- 1) Remove 2 screws (31) for the button assembly.
- 2) Remove a screw (32).
- 3) Loosen a screw (33) for adjustment.

• Erase head

- 1) Remove a screw (34).
- 2) Remove a screw (35) for adjustment.

• Pinch roller arm assembly

- 1) Remove a stopper (36) holding its assembly, and pull it off from the shaft.

• Supply reel disc assembly

- 1) Pull out the reel disc stopper (37) and remove its disc from the shaft.

• Take-up reel disc

- 1) Pull out the reel disc stopper (38) and remove it from the shaft.

Note: Remove the reel disc stoppers with a piece of sheet metal inserted between the reel disc and stopper, when assembling the reel disc, the stopper needs a new parts (the stopper cannot be used again).

• Motor

- 1) Remove 3 screws (39), (40) and (41) fastening the FM bracket. (When removing the FM bracket (42), remove with the main belt (43) and the RF belt (44).)
- 2) Remove 3 screws (45) fastening the motor.
- 3) Pull out the motor pulley from the motor shaft.

Note: Be careful not to stain the main belt and RF belt. (When assembling the motor pulley, adjust the pulley position as next figure.)

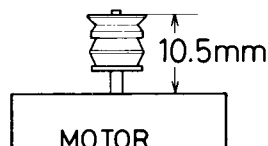


Fig. 6

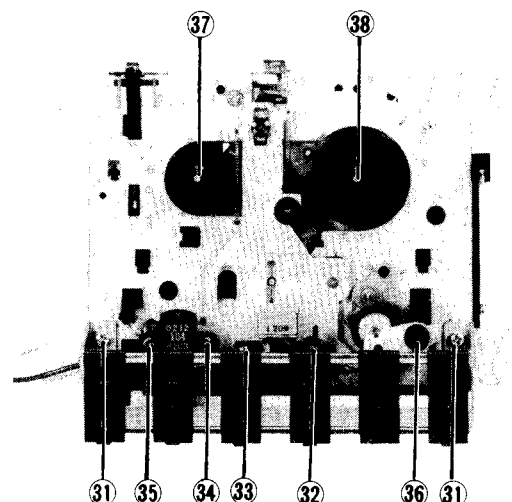


Fig. 7

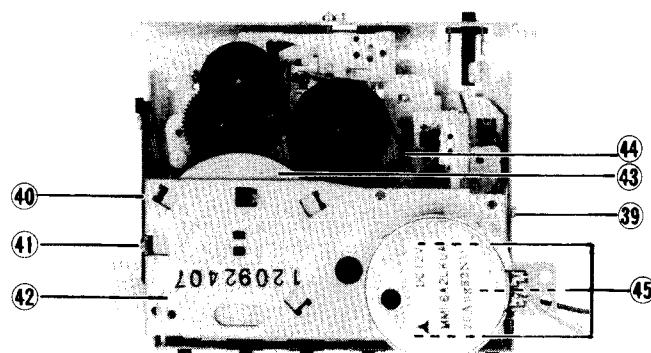


Fig. 8

• Flywheel assembly

Pull out the flywheel from the capstan metal.

How to assemble the FM bracket and belts

- 1) Assemble full auto belt and RF belt as next figure.
- 2) Fasten 3 screws, to assemble the FM bracket.

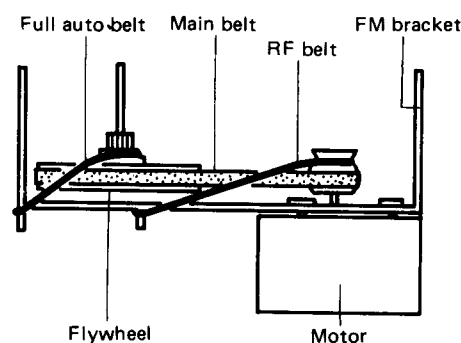


Fig. 9

Main Adjustment

[I] Equipment and measuring instruments used for adjustment

1. Electrical adjustment

- 1) Electronic voltmeter
- 2) Audio frequency oscillator (range: 50–20 kHz and output 0 dB with impedance 600 Ω)
- 3) Attenuator
- 4) Standard tapes for REC/PB

Maxell UD – Norom (SF) tape . . .	}	– or equivalent
TDK SA – Chrome (SA) tape . . .		
JVC ME – Metal tape		

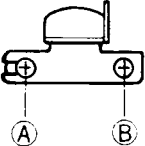
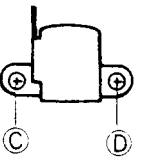
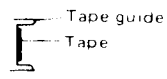
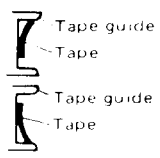
- 5) Reference tapes for playback (JVC Test Tape)
 - VTT703L (for head azimuth adj.)
 - VTT712 (for motor speed, wow flutter adj.)
 - VTT739 (for playback frequency response)
- 6) Resistor 600 Ω (for attenuator matching)

2. Mechanical adjustment

- 1) Torque testing cassette gauge, CTG-N.

[II] Mechanical adjustment

(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting record/playback head position 	<ol style="list-style-type: none"> 1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT703L test tape. 3. Adjust the head angle with the screw (A) until the reading of the electronic voltmeter becomes maximum for both channels. 4. After adjusting, set the screw with screw bond. 	Screw (A)	Maximum	If the head is worn, disconnected or exceedingly magnetized so as not to provide the necessary characteristics, replace it with a new one. After replacement, the head position adjustment as well as the playback level adjustment, the bias current adjustment and the recording level adjustment are all necessary. If the output difference between the left and right channels exceeds 3 – 4 dB, the head is defective. Replace it with a new one.
Adjustment erase head height 	<ol style="list-style-type: none"> 1. Turn the adjusting screw for aligning the erase head until it stops. Then, turn the screw in the reverse direction by 180° (a ½ revolution). 2. Employ a special cassette (C-120) from which parts of the casing, where the erase head, record/playback head and capstan engage, has been cut away. Perform tape transport with the cassette tape. Adjust the screw (C) until the tape runs in the center of the erase head tape guide. 	Screw (C)	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Correct</p>  </div> <div style="text-align: center;"> <p>Incorrect</p>  </div> </div>	Be sure to perform this adjustment after replacing the erase head.
Adjusting motor speed	Connect a speed meter (an electronic counter) to the LINE OUT terminals. Play back the VTT712 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000 Hz.	Semi-fixed resistor in the motor	3000 Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking wow and flutter	Connect a wow and flutter meter to LINE OUT terminals. Play back the VTT712 test tape. Check to see if the reading of the meter is within 0.08% (WRMS).		0.08% (WRMS) 0.2% (DIN45500)	If the reading becomes moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.
Checking playback torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		40–70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.

Item	Adjustment	Adjusting point	Standard value	Remarks
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.

[III] Electrical adjustments location

Main Amp. P.W. Board (parts assembly side view)

(Turning in the direction of the arrow increases the level.)

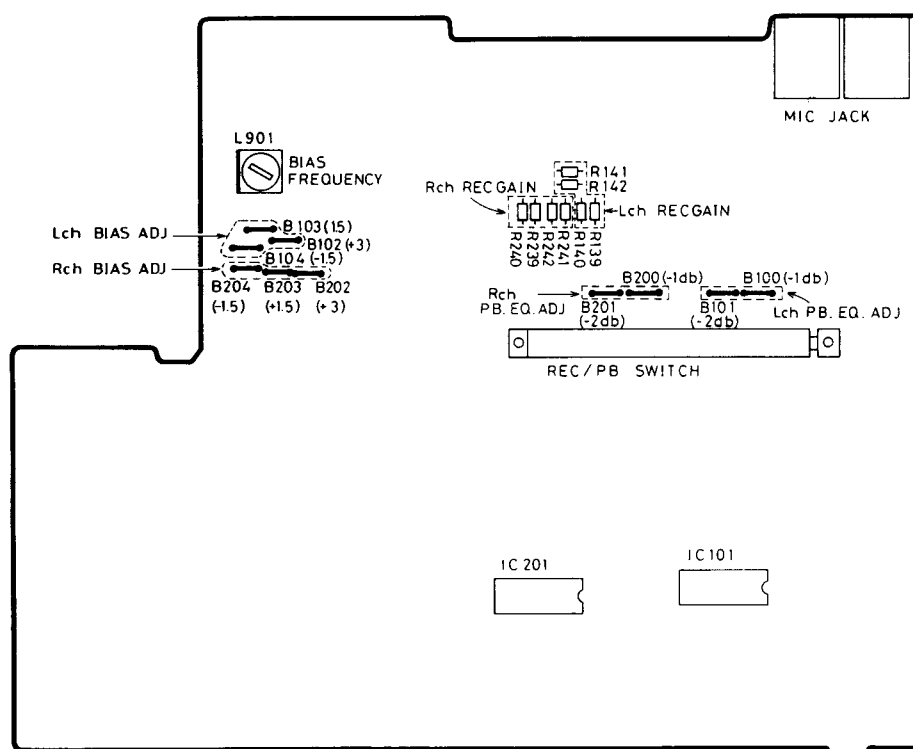


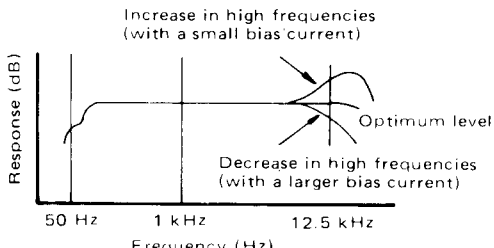
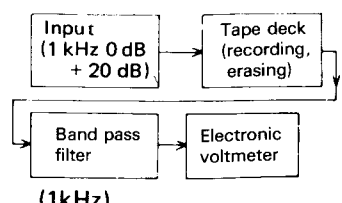
Fig. 10

[IV] Electrical circuit adjustment procedure

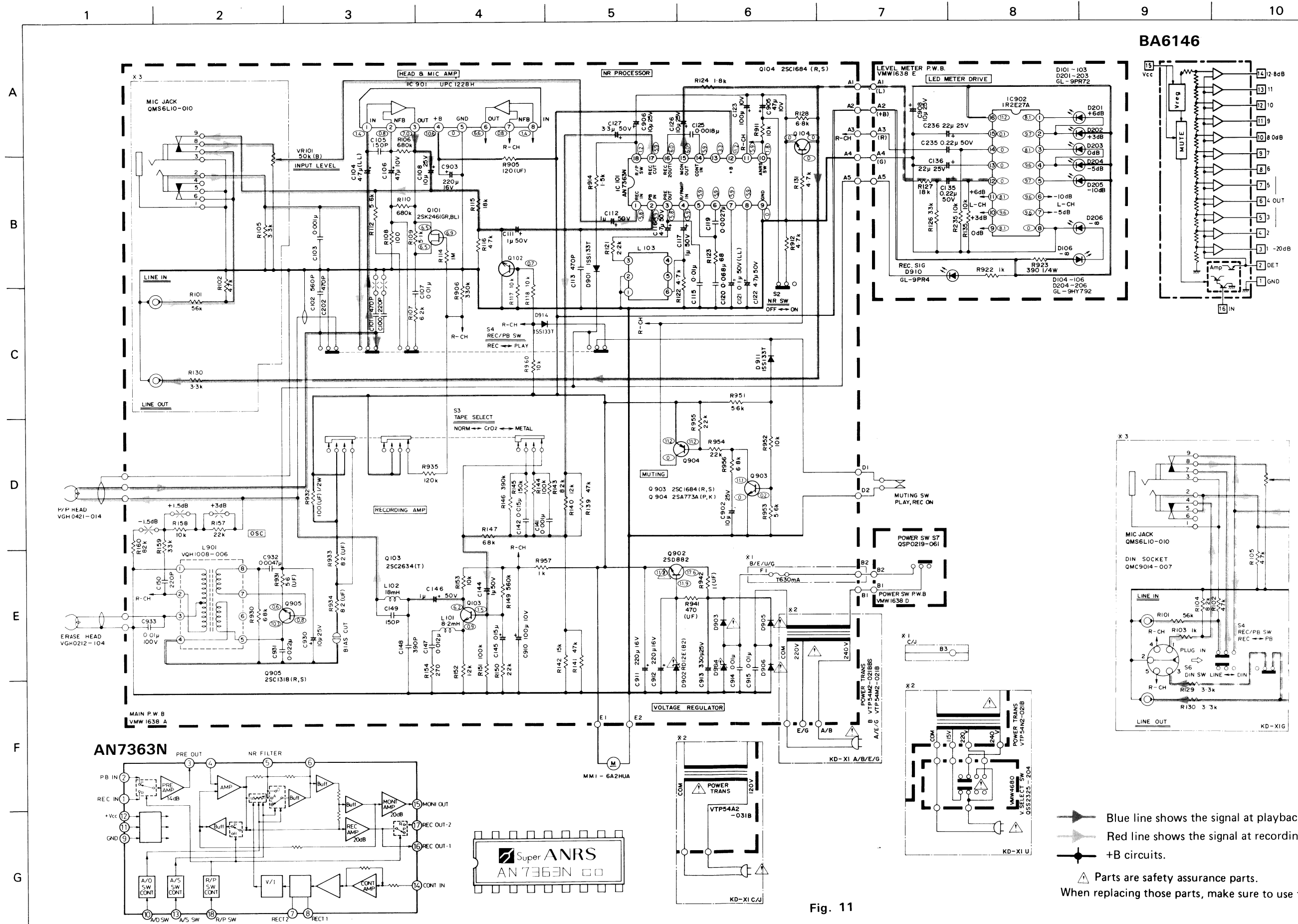
In the steps marked by an asterisk (*), adjustment should be performed, however, only checking is sufficient with steps other than those.

Adjustment should be performed in the order of steps 1, 2, 3, Perform this adjustment with the NR SYSTEM switch set to OFF.

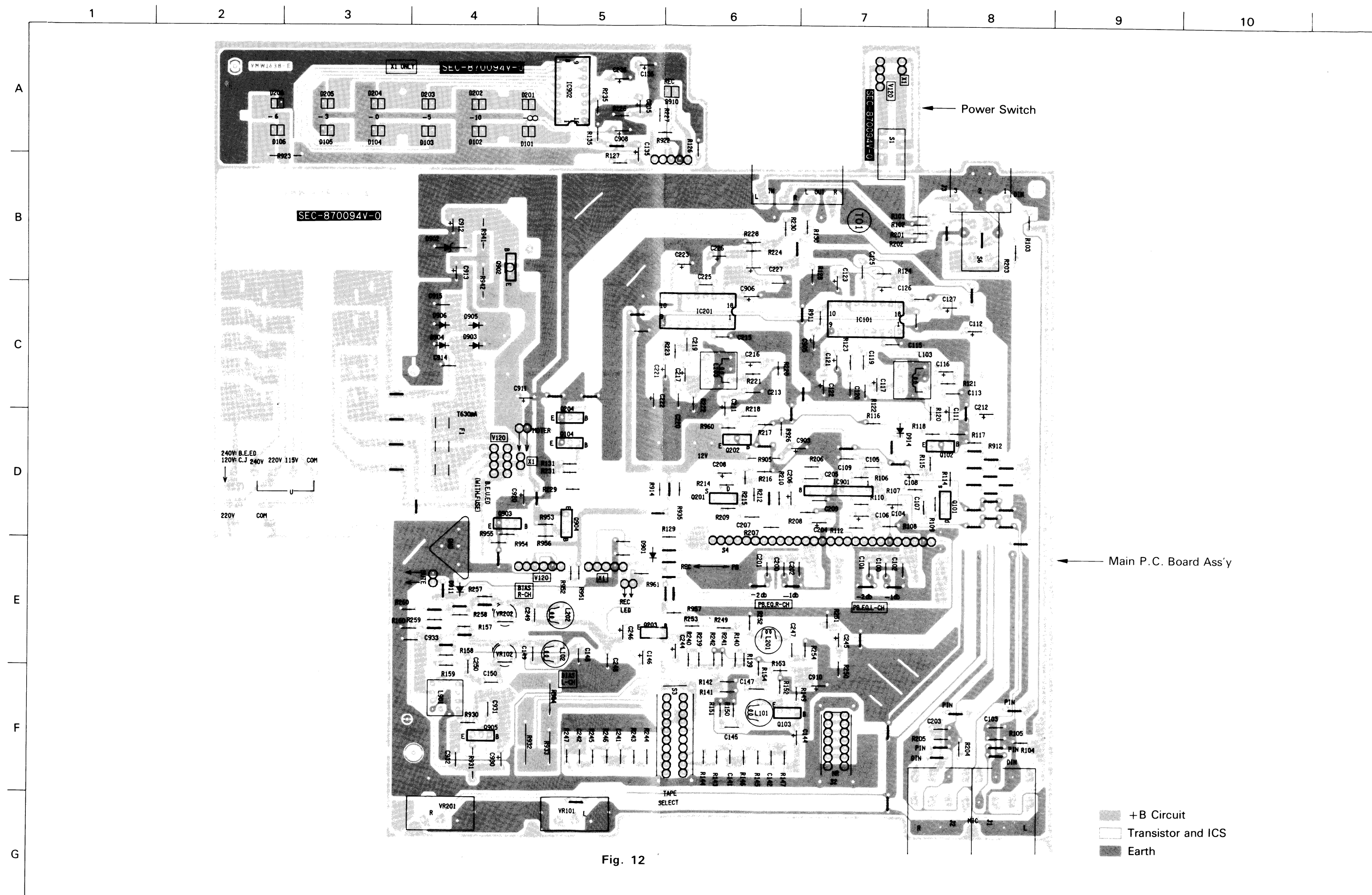
Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1*	Playback frequency response	Playback test tape VTT739 (1 kHz, 10 kHz) for following adjustment. 1. Connect/Disconnect B100 or B101 and B200 or 201 so that 10 kHz signal and 1 kHz signal gains become flat response.	B100, 101 B200, 201	Reference frequency: 1 kHz 0 ± 2 dB at 10 kHz	NR SYSTEM: OFF TAPE SELECT: NORM

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
2	Checking record/playback frequency response	<p>Record 1 kHz, 50 Hz and 12.5 kHz signals at an input level of 0 dB to -20 dB. Play back the tape. Check to see that the 50 Hz and 12.5 kHz signal output deviations fall within the standard range, using the 1 kHz signal output as a reference.</p> 	<p>For NORM tape; Lch B102 B103 B104 Rch B202 B203 B204</p>	<p>Reference frequency; 1 kHz</p> <p>0 ± 3 dB at 50 Hz 0 ± 3 dB at 12.5 kHz</p>	<p>This checking should be performed for normal tapes and for both right and left channels.</p> <ol style="list-style-type: none"> Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. If the bias current is not properly adjusted, the record and playback characteristics become as shown left.
3	Checking recording level	<ol style="list-style-type: none"> Apply a 1 kHz -23 ± 3 dBV Signal to the LINE IN terminals, play back the recorded part, and check so that line out terminal level become 0 ± 2.5 dB. If the standard value cannot be obtained, adjust the recording level using R139, 140, 141 and 142 in combination (for L-ch), and R239, 240, 241 and 242 (R-ch), respectively. 		0 ± 2.5 dB	The level difference between left and right channels for SF/NORM tape and chrome tape should be less than 3 dB. Perform the adjustment using a normal tape, level difference between recording and playback for SA/CrO ₂ and metal tapes, should be less than 3 dB, and that between left and right channels should also be less than 3 dB.
4	Checking record/playback distortion	<ol style="list-style-type: none"> Record a 1 kHz, -8 dB signal to LINE IN terminals and perform recording with the multi-peak becomes to 0. Play back the recorded part. Check the output with a distortion meter to see if the value conforms to the standard value. 		<p>NORM tape; Less than 2.0% CrO₂ tape; Less than 3% Metal tape; Less than 2% (THD)</p>	Be sure to perform this checking following bias current and recording level checking.
5	Checking signal to noise ratio in recording/playback	<ol style="list-style-type: none"> Record a 1 kHz, 0 dB signal. Stop the input by disconnecting from the terminal to perform non-signal recording. Play back the recorded part. Measure the 0 dB recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value. 		<p>NORM, CrO₂ and Metal tapes; More than 42 dB</p>	Apply an output (-72 dBs) to the MIC terminals with the recording level controls set to maximum so that the multi-peak indicator becomes 0 dB.
6	Checking erasing coefficient	<ol style="list-style-type: none"> Apply a 1 kHz signal to the LINE IN terminals. Adjust the recording level controls until the multi-peak indicator becomes 0 dB. Perform recording with the signal enhanced by 20 dB. Erase a part of the recording. Measure the output difference between the erased part and non-erased part to compare with an electronic voltmeter. 		More than 65 dB	<p>For the measuring, connect a band pass filter between the deck and the electronic voltmeter.</p> 

Standard Schematic Diagram



P.C.Board Parts and Parts List



P. C. B. Parts List

 parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

△	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	IC101, IC201	AN7363N	I.C.	NR AMP.	2
	IC902	1R2E27A	I.C.		1
	IC901	UPC1228H	I.C.		1
	Q904	2SA733A(P,K)-T	TRANSISTOR		1
	Q905	2SC1318(R,S)	TRANSISTOR		1
	Q102, Q104 Q202, Q204 Q903	2SC1684(R,S)TA	TRANSISTOR		5
	Q103, Q203	2SC2634(T)	TRANSISTOR		2
△	Q902	2SD882(Q,P)	TRANSISTOR		1
	Q101, Q201	2SK301(R,S)TA	TR		2
	D104 -D106 D204 -D206 D910	GL-9HY792	LED		6
	D101 -D103	GL-9PR4	L.E.D.		1
		GL-9PR72	L.E.D.		6
	D201 -D203 D902	RD12E(B2)	Z DIODE		1
	D901, D911 D914	1SS254T-77	SI DIODE		3
△	D903 -D906	11E1-TB2	SI DIODE		4
	VR101, VR201	QVFOA2A-054	V.RESISTOR	INPUT LEVEL	2
	S2	QSL1A22-V01	LEVER SWITCH		1
	S3	QSL4310-013	LEVER SWITCH		1
△	S1	QSP0219-061	PUSH SWITCH		1
	S6	QSP2210-061	PUSH SWITCH		1
	S4	QSS9201-005R	SLIDE SWITCH		1
	L901	VQH1008-006	COIL		1
	L102, L202	VQP0001-183S	INDUCTOR		2
	L101, L201	VQP0001-822S	INDUCTOR		2
	L103, L203	VQZ0024-001	FILTER	DOLBY FILTER	2
△	R932	QRD129J-101	CARBON RESISTOR		1
	R956	QRD141J-6R8	CARBON RESISTOR		1
△	R942	QRD149J-1R0S	CARBON RESISTOR		1
	R905	QRD149J-121S	CARBON RESISTOR		1
	R923	QRD149J-391S	CARBON RESISTOR		1
△	R941	QRD149J-471S	CARBON RESISTOR		1
	R931	QRD149J-5R6S	CARBON RESISTOR		1
△	R934	QRD149J-8R2S	CARBON RESISTOR		1
△	R933	QRD149J-820S	CARBON RESISTOR		1
	R108, R208	QRD161J-101	CARBON RESISTOR		2
	R103, R203	QRD161J-102	CARBON RESISTOR		4
	R922, R957				
	R117, R118	QRD161J-103	CARBON RESISTOR		13
	R135, R153				
	R158, R217				
	R218, R235				
	R253, R258				
	R911, R952				
	R960				
	R144, R151	QRD161J-104	CARBON RESISTOR		4
	R244, R251				
	R114, R214	QRD161J-105	CARBON RESISTOR		2
	R152, R252	QRD161J-122	CARBON RESISTOR		2
	R140, R240	QRD161J-123	CARBON RESISTOR		2
	R935	QRD161J-124	CARBON RESISTOR		2

A	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	R914	QRD161J-152	CARBON RESISTOR		1
	R142 ✓R242	QRD161J-153	CARBON RESISTOR		2
	R145 ✓R245	QRD161J-154	CARBON RESISTOR		2
	R124 ✓R224	QRD161J-182	CARBON RESISTOR		2
	R115 ✓R127	QRD161J-183	CARBON RESISTOR		4
	R215 ✓R227				
	R121 ✓R221	QRD161J-222	CARBON RESISTOR		2
	R150 ✓R157	QRD161J-223	CARBON RESISTOR		
	R250 ✓R257				
	R953 -R955				
	R154 ✓R254	QRD161J-271	CARBON RESISTOR		2
	R105 ✓R129	QRD161J-332	CARBON RESISTOR		6
	R130 ✓R205				
	R229 ✓R230				
	R126 ✓R159	QRD161J-333	CARBON RESISTOR		4
	R226 ✓R259				
	R906	QRD161J-334	CARBON RESISTOR		1
	R146 ✓R246	QRD161J-394	CARBON RESISTOR		2
	R105 ✓R116	QRD161J-472	CARBON RESISTOR		9
	R122 ✓R131				
	R205 ✓R216				
	R222 ✓R231				
	R912				
	R102 ✓R139	QRD161J-473	CARBON RESISTOR		6
	R141 ✓R202				
	R239 ✓R241				
	R109 ✓R209	QRD161J-512	CARBON RESISTOR		2
	R112 ✓R212	QRD161J-562	CARBON RESISTOR		3
	R951				
	R101 ✓R201	QRD161J-563	CARBON RESISTOR		2
	R149 ✓R249	QRD161J-564	CARBON RESISTOR		2
	R107 ✓R207	QRD161J-622	C RESISTOR		2
	R123 ✓R223	QRD161J-680	CARBON RESISTOR		2
	R128 ✓R228	QRD161J-682	CARBON RESISTOR		3
	R930				
	R147 ✓R247	QRD161J-683	CARBON RESISTOR		2
	R106 ✓R110	QRD161J-684	CARBON RESISTOR		4
	R206 ✓R210				
	R104 ✓R204	QRD161J-822	CARBON RESISTOR		2
	R143 ✓R160	QRD161J-823	CARBON RESISTOR		4
	R243 ✓R260				
	C103 ✓C203	QCF11HP-102	C.CAPACITOR		2
	C914 ✓C915	QCF11HP-103	C.CAPACITOR		1
	C935	QCF11HP-223	C.CAPACITOR		2
	C105 ✓C205	QCS11HJ-151	C.CAPACITOR		2
	C100 ✓C150	QCS11HJ-221	C.CAPACITOR		4
	C200 ✓C250				
	C148 ✓C248	QCS11HJ-391	C.CAPACITOR		2
	C101 ✓C113	QCS11HJ-471	C.CAPACITOR		5
	C201 ✓C202				
	C213				
	C102	QCS11HJ-561	C.CAPACITOR		1
	C149 ✓C249	QCS12HJ-151	C.CAPACITOR		2
	C141 ✓C241	QCY41HK-102	C.CAPACITOR		2
	C115 ✓C215	QCY41HK-103	C.CAPACITOR		2

Δ	REF. NO	PARTS NO.	PARTS NAME	REMARKS	QTY
	C104 ,C204	QEB41EM-475	E.CAPACITOR		2
	C910	QET41AR-107	E CAPACITOR		1
	C123 ,C223	QET41AR-227	E CAPACITOR		2
	C106 ,C206	QET41AR-336	E CAPACITOR		2
	C905	QET41AR-476	E CAPACITOR		1
Δ	C903 ,C911	QET41CM-227	E CAPACITOR		3
	C912				
	C153 ,C253	QET41CR-107	E CAPACITOR		2
	C108 ,C126	QET41ER-106	E CAPACITOR		7
	C208 ,C226				
	C906 ,C908				
	C930				
	C136 ,C236	QET41ER-226	E CAPACITOR		2
Δ	C913	QET41ER-337	E.CAPACITOR		1
	C121 ,C221	QET41HR-104	E CAPACITOR		2
	C111 ,C112	QET41HR-105	E.CAPACITOR		10
	C117 ,C144				
	C146 ,C211				
	C212 ,C217				
	C244 ,C246				
	C135 ,C235	QET41HR-224	E.CAPACITOR		2
	C127 ,C227	QET41HR-335	E.CAPACITOR		2
	C116 ,C122	QET41HR-475	E CAPACITOR		5
	C216 ,C222				
	C920				
	C142 ,C242	QFN41HJ-152	M.CAPACITOR		2
	C125 ,C225	QFN41HJ-182	M CAPACITOR		2
	C119 ,C219	QFN41HJ-272	M CAPACITOR		2
	C932	QFN41HJ-472	M.CAPACITOR		1
	C933	QFP42AJ-103	P.P.CAPACITOR		1
	C107 ,C207	QFV41HJ-103	M.CAPACITOR		2
	C147 ,C247	QFV41HJ-123	TF CAPACITOR		2
	C145 ,C245	QFV41HJ-154	TF CAPACITOR		2
	C931	QFV41HJ-223	M.CAPACITOR		1
	C120 ,C220	QFV41HJ-683	M.CAPACITOR		2
	J4	EMN00TV-402A	PIN JACK		1
	J3	QMC9014-007	DIN SOCKET	KD-X1G(VERSION)	1
	J1 ,J2	QMS6L10-010	MIC JACK	MIC JACK	2

Wiring Connections

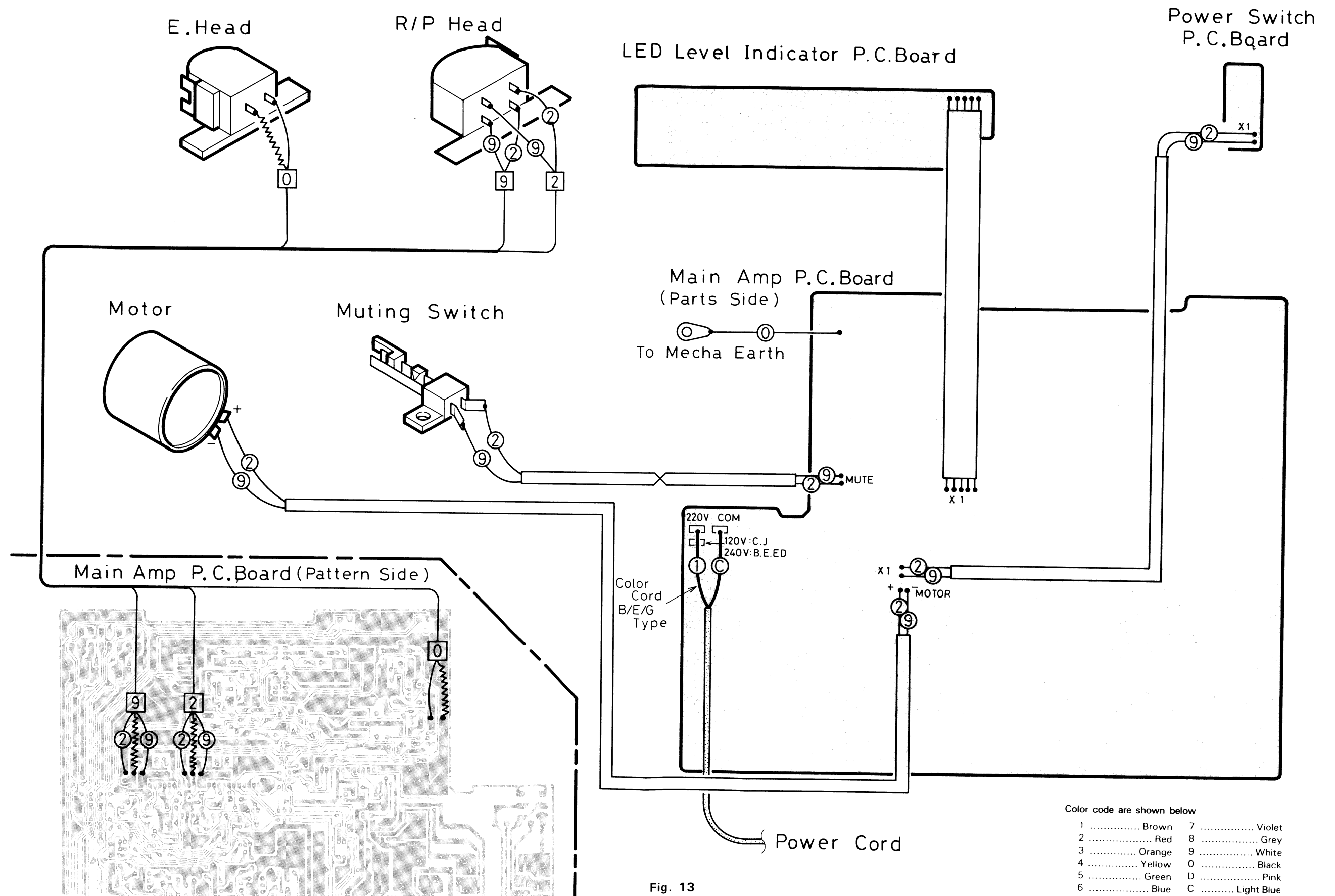


Fig. 13

Enclosure Assembly Parts List

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

Black type Parts List

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	VKL3612-001	AMP CHASSIS		1
	2	VKH4673-001	SHAFT	FOR REC.ARM	1
	3	VKW4540-001	SPRING	FOR REC.	1
	4	REE3000X	WASHER	FOR SHAFT	1
	5	VKL5832-001	RECORDING ARM		1
	8	VKZ4001-011	WIRE HOLDER		1
	9	SDST3006Z	SCREW		1
	10	VJC2171-001	REAR PANEL	KD-X1A/B/C/E/J	1
		VJC2171-002	REAR PANEL	KD-X1U	1
		VJC2171-003	REAR PANEL	KD-X1G	1
	11	SDST3006N	SCREW	FOR REAR PANEL	2
	12	SDSP3006N	SCREW	KD-X1U V.SELECTER	2
	13	E48729-002	RIVET	KD-X1G DIN JACK	2
△	14	QMP1200-200	POWER CORD	KD-X1C/J	1
△		QMP2560-200	POWER CORD	KD-X1A	1
△		QMP3900-200	POWER CORD	KD-X1E/G	1
△		QMP7600-200	POWER CORD	KD-X1U	1
△		QMP9017-008BS	POWER CORD	KD-X1B	1
△	15	QHS3876-162	S.R.BUSHING	KD-X1A/C/E/G/J/U	1
△		QHS3876-162BS	S.R.BUSHING	KD-X1B	1
△	16	VTP54A2-031B	POWER TRANS.	KD-X1C/J	1
△		VTP54M2-021B	POWER TRANS.	KD-X1A/E/G	1
△		VTP54M2-021BBS	POWER TRANS.	KD-X1B	1
△		VTP54N2-021B	POWER TRANS.	KD-X1U	1
	17	SDST3006Z	SCREW	FOR P.TRANSFORMER	2
	18	SBSF3012Z	SCREW		1
	19	QMF51A2-R63	FUSE	KD-X1A/E/G/U	1
		QMF51A2-R63BS	FUSE	KD-X1B	1
	20	SDST3006Z	SCREW	FOR P.C.BOARD	1
	21	WBS3000N	WASHER		1
	22	SDSF3008N	SCREW	FOR PIN JACK	1
	23	SSSF3012Z	TAP SCREW		3
	24	VJC1418-002	FRONT PLATE		1
	25	SSSF3008Z	SCREW	FOR F.PLATE	3
	26	VJC1417-005	FRONT PANEL		1
		VJC1417-006UL	FRONT PANEL		1
	27	VKZ4150-001	SPECIAL NUT		1
	28	VJK3302-001	LENS		1
	29	VXP3131-001	POWER KNOB		1
	30	VXQ4074-002	KNOB		2
	31	VXL4255-001	VOLUME KNOB		2
	32	VKL3620-001	BRACKET		1
	33	E70913-001	MARK		1
	34	VJD4894-002	SHEET		1
	35	VYH5033-002	DAMPER HOLDER		1
	36	VYH4769-001	GEAR		1
	37	SDSF3012Z	SCREW	FOR DAMPER HOLDER	1
	38	VKC5168-001T	COUNTER ASS'Y		1
	39	SDSF2605Z	SCREW		1
	40	VKB3000-072	COUNTER BELT		1
	41	VKL5383-002	BRACKET		1
	42	SSSF3008Z	SCREW	FOR C.BRACKET	2
	43	VJT2106-001	CASSETTE HOLDER		1
	44	VJT3140-001	CASSETTE CASE		1
	45	VJD4895-001	PLATE		1

NOTE:

Entry of the assembly parts number

ZCKDX1 □ -FSL

↑ Enter the code name which is on the name plate and order the part.

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	46	VKY4271-005	C.SPRING		1
	47	VKY4271-006	C.SPRING		1
	48	VKW4397-003	SPRING		1
	49	VJD4896-001	PLATE		1
	50	VXP3129-007	PUSH BUTTON	FOR (REC.)	1
	51	VXP3129-008	PUSH BUTTON	FOR (PLAY)	1
	52	VXP3129-009	PUSH BUTTON	FOR (REW)	1
	53	VXP3129-010	PUSH BUTTON	FOR (FF)	1
	54	VXP3129-011	PUSH BUTTON	FOR (STOP/EJECT)	1
	55	VXP3129-012	PUSH BUTTON	FOR (PAUSE)	1
	56	VJC2174-001	BOTTOM COVER		1
	57	SDSF3008Z	SCREW	FOR BOTTOM (FRONT)	3
	58	SDST3008R	SCREW	FOR BOTTOM (REAR)	3
	59	VJF4003-002	FOOT		4
	60	VKW4545-001	REC WIRE		1
	61	VJC2175-002	TOP COVER		1
	62	SDSB4010R	SCREW	FOR TOP COVER	6
	63	SDST3006R	SCREW	FOR TOP COVER	1
	64	VYN2140-002KA	NAME PLATE	KD-X1B	1
		VYN2140-003KA	NAME PLATE	KD-X1A	1
		VYN2140-004PK	NAME PLATE	KD-X1C	1
		VYN2140-005KA	NAME PLATE	KD-X1E	1
		VYN2140-006PA	NAME PLATE	KD-X1J	1
		VYN2140-007KA	NAME PLATE	KD-X1U	1
		VYN2140-008KA	NAME PLATE	KD-X1G	1
	65	VKL5002-001	HEAT SINK		1
		VMH4003-001	HEAT SINK	KD-X1U VERSION	1
	66	DPSP3008Z	SCREW	FOR Q902	1
	67	SSSP3006Z	SCREW	KD-X1U VERSION	1
	68	VKS3252-001	HOLDER		1
△	69	QSS2325-204	SLIDE SWITCH	KD-X1U VERSION	1
	70	VMW4680-001	PW BOARD	KD-X1U VERSION	1
	24, 26, 28, 33, 34, 49	ZCKDX1 □ -FSL	FRONT PANEL Ass'y	SILVER	1
	43, 45, 46, 47	ZCKDX1 □ -FBK	FRONT PANEL Ass'y	BLACK	1
		ZCKDX1 □ -CH	CASSETTE HOLDER Ass'y		1

Comparison Table Between Black Type and Silver Type

Ref No.	Black Type Parts No.	Q'ty	Silver Type Parts No.	Q'ty	Parts Name
26	VJC1417-005		VJC1417-001	1	Front Panel
"	VJC1417-006UL		VJC1417-002UL	1	Front Panel
33	E70913-001		E70913-002	1	JVC Mark
34	VJD4894-002		VJD4894-001	1	Sheet
50	VXP3129-007		VXP3129-001	1	Pwsh Butlon (Rec)
51	" -008		" -002	1	" (Play)
52	" -009		" -003	1	" (Rew)
53	" -010		" -004	1	" (FF)
54	" -011		" -005	1	" (Stop/Eject)
55	" -012		" -006	1	" (Puse)
61	VJC2175-002		VJC2175-001	1	Top Cover
62	SDSB4010N		SDSB4010R	6	Screw

Exploded View of Enclosure Assembly

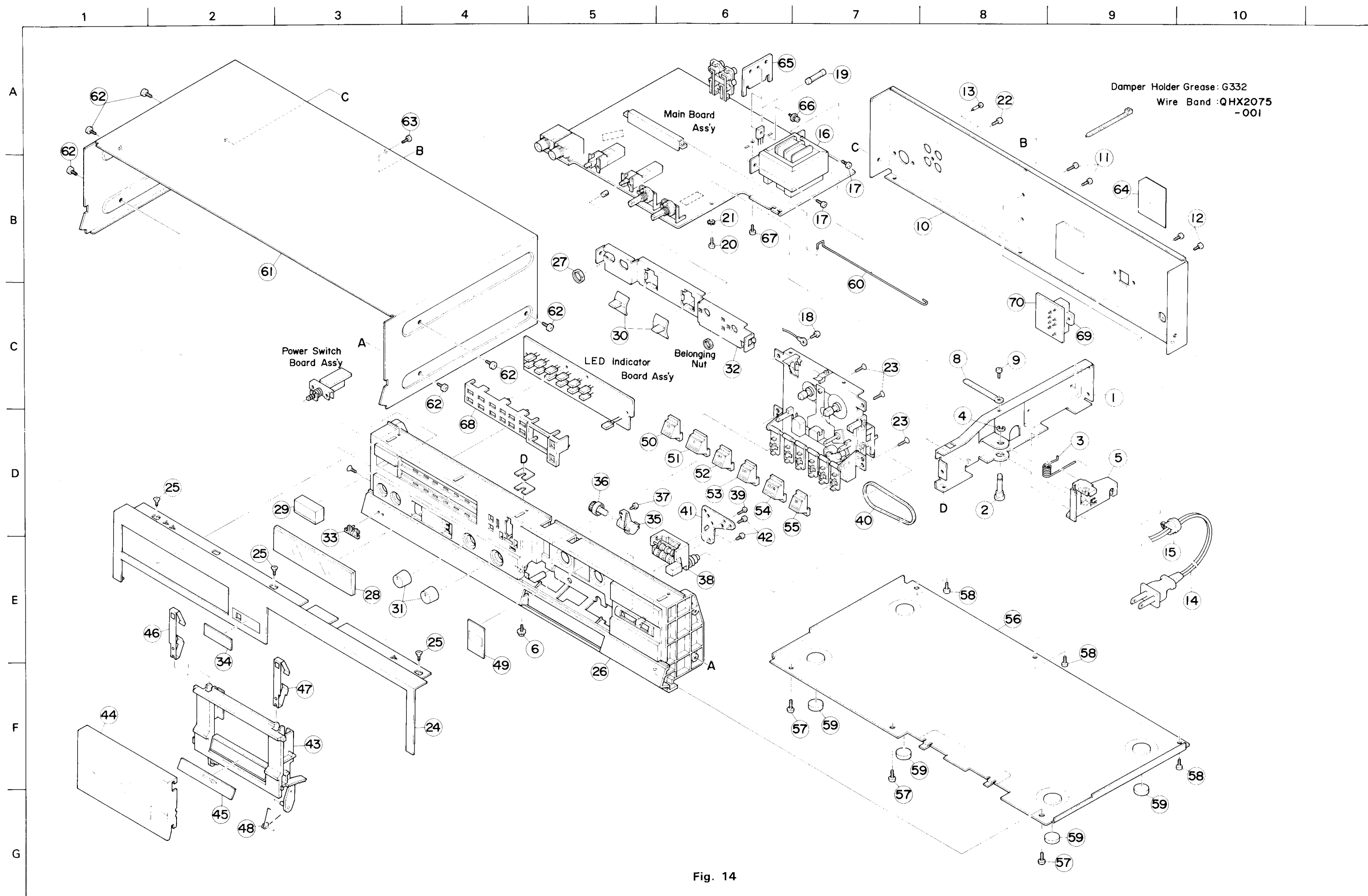


Fig. 14

Exploded View of Mechanism Assembly

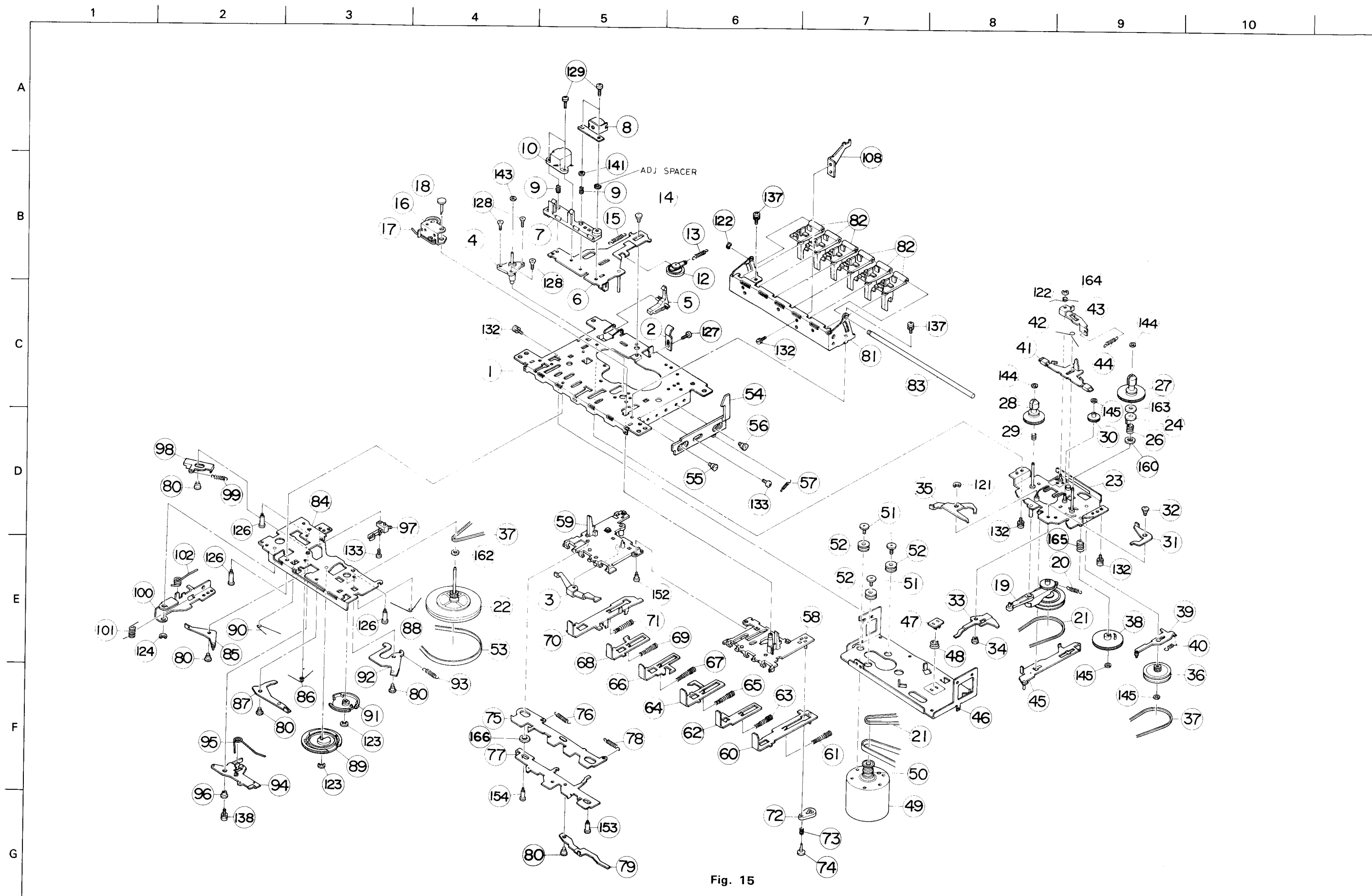


Fig. 15

Mecanism Assembly Parts List

△ parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	18200101T	CHASSIS BASE		1
	2	18200102T	PACK SPRING		1
	3	18200202T	STOPPER		1
	4	18201207T	FLYWHEEL METAL		1
	5	18000201T	REC. SAF. LEVER		1
	6	182003501ZT	HEAD PANEL		1
	7	18200311T	HEAD BASE		1
	8	VGH0421-014	R/P HEAD		1
	9	14400315T	HEAD SPRING	R/P HEAD	1
		14400315T	HEAD SPRING	ERASER HEAD	1
	10	VGH0212-104	ERASER HEAD		1
	12	182003301ZT	T-UP ROLLER	PLATE ASS'Y	1
	13	18200312T	SPRING	T-UP ROLLER PLATE	1
	14	18200316T	P.COLLAR SCREW		1
	15	18200302T	SPRING	HEAD PANEL	1
	16	182004303ZT	PINCH ROLLER		1
	17	18200403T	P.ROLLER SPRING		1
	18	17152015T	STOPPER		1
	19	182007301ZT	RF.CLUTCH ASS'Y		1
	20	18200704T	SPRING	RF.CLUTCH ARM	1
	21	17150606T	RF. BELT		1
	22	182012301ZT	FLYWHEEL ASS'Y		1
	23	182005505ZT	BRACKET ASS'Y	REEL	1
	24	18200814T	A.S DETECT PIECE		1
	26	18200817T	A.S D.PCE SPRING		1
	27	182006301ZT	TAKE-UP REEL ASS'Y		1
	28	182006302ZT	SUPPLY REEL ASS'Y		1
	29	18200608T	BACK TENSION SPRING		1
	30	18000610T	GEAR	FF	1
	31	18200910T	T.R KICK LEVER		1
	32	18200818T	COLLAR SCREW		1
	33	18200805T	AUTO STOP LEVER		1
	34	18200811T	COLLAR	AUTO STOP LEVER	1
	35	18200911T	KICK LEVER		1
	36	18200801T	PULLEY		1
	37	18200809T	BELT	AUTO STOP	1
	38	18200802T	CAM GEAR		1
	39	18200803AT	DETECT LEVER		1
	40	18200810T	DETECT LEVER SPRING		1
	41	182009301ZT	BRAKE ARM ASS'Y		1
	42	18200902T	BRAKE SPRING		1
	43	18200905T	A.S.G.LEVER		1
	44	18200914T	A.S G.LEVER SP.		1
	45	18200903AT	LEVER		1
	46	18201301T	FM BRACKET		1
	47	18201302T	FL.THRUST PLATE		1
	48	18201310T	THRUST SPRING		1
△	49	MMI-6A2HUA	MOTOR		1
	50	18201304T	MOTOR PULLEY		1
	51	18201305T	COLLAR SCREW	MOTOR	3
	52	18201306T	RUBBER CUSHION	MOTOR	3
	53	18201303T	CAPSTAN BELT		1
	54	18201401T	EJECT LEVER		1
	55	18201418T	COLLAR SCREW		1
	56	18201419T	COLLAR SCREW		1

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	57	15590306T	SPRING	EJECT SLIDE LEVER	1
	58	18201001AT	BUTTON BASE (L)		1
	59	18201002AT	BASE		1
	60	182010501ZT	LEVER ASS'Y	PAUSE BUTTON	1
	61	18000903T	B.LEVER SPRING		1
	62	18201022T	LEVER	STOP BUTTON	1
	63	18201027T	BUTTON LEVER SPRING		1
	64	18201021T	LEVER	FF BUTTON	1
	65	18000903T	B.LEVER SPRING		1
	66	18201020T	LEVER	REW BUTTON	1
	67	18201026T	BUTTON LEVER SPRING		1
	68	18201019T	LEVER	PLAY BUTTON	1
	69	18201026T	BUTTON LEVER SPRING		1
	70	18201018T	LEVER	REC.BUTTON	1
	71	18201026T	BUTTON LEVER SPRING		1
	72	18201041T	PAUSE LEVER		1
	73	18201034T	PAUSE LEVER SPRING		1
	74	18201032T	STOPPER		1
	75	18201042T	BUTTON CAM		1
	76	18201052T	SPRING	BUTTON CAM	1
	77	18201010T	SWITCH CAM		1
	78	18201031T	SPRING	SWITCH CAM	1
	79	18201011T	KICK LEVER		1
	80	18200819T	SCREW		1
		18200819T	SCREW	REC.FUNCTION	1
		18200819T	SCREW	PAUSE ARM	1
		18200819T	SCREW	P.TRIGGER ARM	1
	81	18201015T	BUTTON FRAME	M.TRIGGER ARM	1
	82	18201028T	FUNCTION LEVER		6
	83	18201016T	LEVER SHAFT		1
	84	182011501ZT	CHASSIS BASE		1
	85	182011510ZT	M TRIG.ARM ASS'Y		1
	86	18201126T	SPRING	M.TRIGGER ARM	1
	87	182011503ZT	P.TRIGGER ARM ASS'Y		1
	88	18201127T	SPRING	P.TRIGGER ARM	1
	89	18201103T	MAIN GEAR		1
	90	18201131T	SPRING	MAIN GEAR	1
	91	18201104T	PAUSE GEAR		1
	92	182011504ZT	PAUSE ARM ASS'Y		1
	93	17000932T	SPRING	PAUSE ARM ASS'Y	1
	94	182011505ZT	LIFT ARM ASS'Y		1
	95	18201129T	SPRING	LIFT ARM	1
	96	18201130T	COLLAR	LIFT ARM	1
	97	64010170T	LEAF SWITCH	MSW-1412TNBK	1
	98	18201121T	PLATE	REC.FUNCTION	1
	99	17001612T	SPRING	REC.FUNCTION PLATE	1
	100	18201122T	RECORDING ARM		1
	101	18201124T	SPRING	REC.ARM	1
	102	18201136T	SPRING	REC.DAMPER	1
	108	18201035T	B.SHAFT STOPPER		1
	121	REE1200(T)	E.RING	KICK LEVER	1
	122	REE1500(T)	E.RING	LEVER SHAFT	1
		REE1500(T)	E.RING		1
	123	REE2000(T)	E.RING		1
	124	REE3000(T)	E.RING		1
	126	18201137T	SCREW		3
	127	SPST2603Z(T)	TH.TAP.SCREW	PACK SPRING	1
	128	SSSK2030M(T)	MINI SCREW	FL METAL	3

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	129	SPSX2007Z(T)	PM. SCREW	R/P HEAD	2
		SPSX2007Z(T)	PM. SCREW	ERASER HEAD	2
	132	LPSP2004Z(T)	ASSY SCREW		1
		LPSP2004Z(T)	ASSY SCREW		1
		LPSP2004Z(T)	ASSY SCREW	RELL BRACKET	2
	133	SPSP2004Z(T)	SCREW	FM BRACKET	1
		SPSP2004Z(T)	SCREW		1
	137	LPSP2604Z(T)	SCREW		2
	138	LPSP2606Z(T)	SCREW		1
	141	93160000T	WASHER		1
	143	93720000T	NYLON WASHER	OIL CUT	1
	144	94970000T	E-RING	T-UP REEL	1
		94970000T	E-RING		1
	145	94210000T	WASHER	FF GEAR	1
		94210000T	WASHER	CAM GEAR	1
		94210000T	WASHER	PULLEY	1
	152	18201025T	SCREW		1
	153	18201029T	SCREW		1
	154	18201030T	SCREW		1
	160	97910000T	POLYSLIDER WASHER		1
	162	97880000T	POLYS WASHER	THRUST	1
	163	18200807T	FELT		1
	164	18200913T	SPRING		1
	165	18200821T	CAM GEAR SPRING		1
	166	18201068T	SPACER		1

Accessories

△	Ref. No.	Parts. No.	Parts Name	Remarks	Q'ty
		VNN0157-301	Instruction Book	KD-X1 B/E/G	1
		VNN0157-901	"	KD-X1 A/C/J/U	1
		VMP0039-00B	Pin Cord		2
		BT20047B	Warranty Card	KD-X1 J/U	1
		BT20066	"	KD-X1 B/G	1
		BT20060	"	KD-X1 B	1
		BT20029C	"	KD-X1 A	1
		BT20025H	"	KD-X1 C	1
		BT20064	"	KD-X1 G	1
		BT20046B	Special Reply Card	KD-X1 J/U	1
		BT20044D	Safety Instruction	KD-X1 B	1
		TJL000420-01	Lavel	"	1
		QZL1002-003	Warning Lavel	"	1
		VNC5004-001	Mark Sticker		1
		VND4113-001	G. Caution	KD-X1 B/J	1
		VNF0154-001	Feature Sticker	KD-X1 A/E/U	1
		T44362-001	CSA Lavel	KD-X1 C	1
		BT20071A	SVC Center List		1
		VNC1200-002	Copy Right Law Warning		1
		VNC5004-001	Mark Sticker	(DIN45500) KD-X1 E/G	1
		VNC5311-203	Caution Card	for EES KD-X1 U	1
		VNC5311-204	"	for PX KD-X1 U	1
		V04062-001	Siemens Plug	KD-X1 U	1
		VND4037-002	F. Mark	KD-X1 G	1
		VNC2200-001	Inst Sheet	KD-X1 G	1
		VNN0154-801	Instruction Book	KD-X1 E	1

Packing

Positions of Controls and Switch
Knobs at Renewed Packing

POWER Switch : OFF
NR SYSTEM Switch : OFF
TAPE SYSTEM Switch : OFF
INPUT LEVEL Volume Control : MIN
TAPE COUNTER : 000
Mechanism Operation Button : OFF

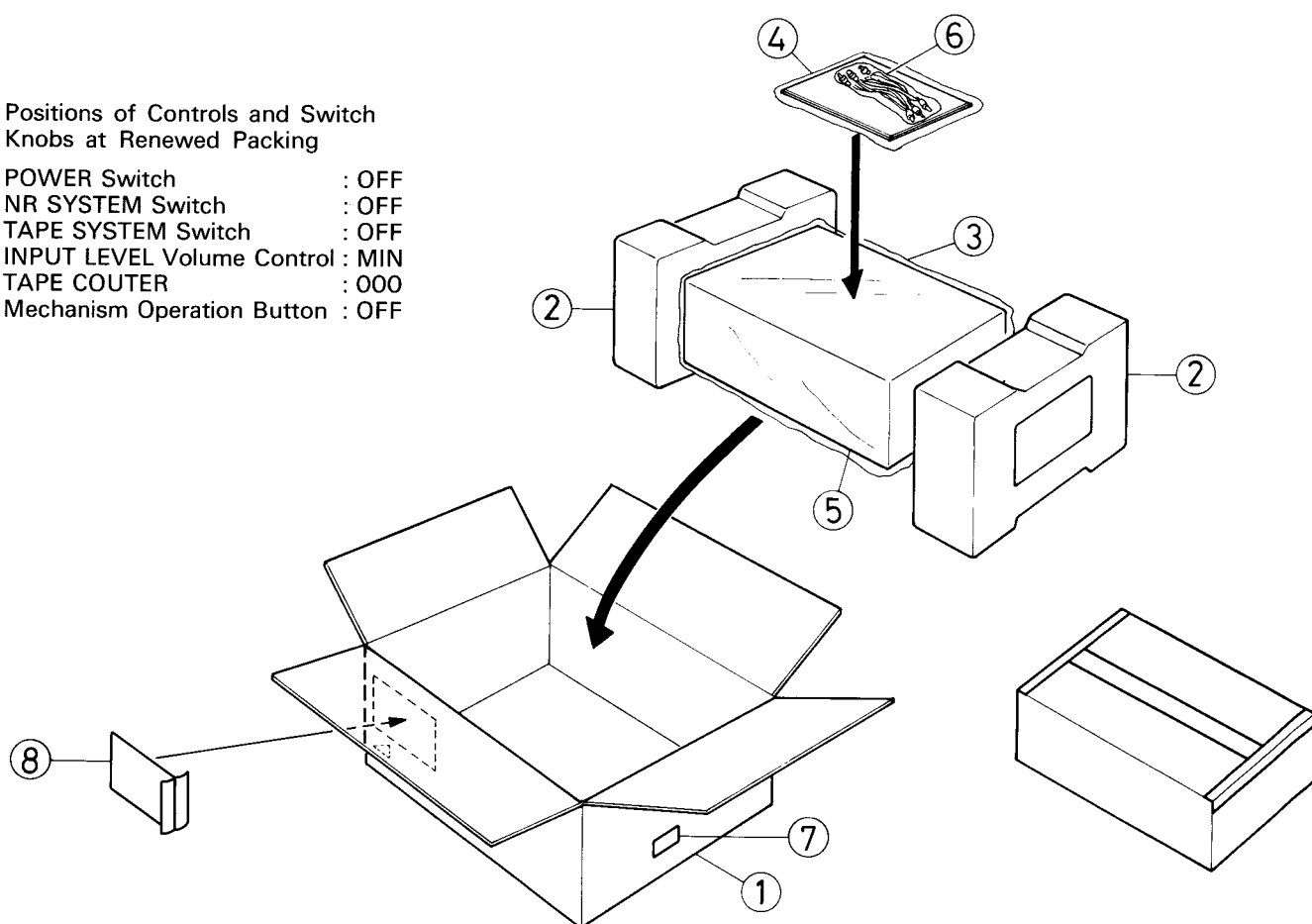


Fig. 16

▲	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1	VPC2141-002	Carton	KD-X1 B(BK) or VPC2140-002(SL)	1
	"	-003	"	KD-X1 A(BK) or " -003(SL)	1
	"	-004	"	KD-X1 C(BK) or " -004(SL)	1
	"	-005	"	KD-X1 E(BK) or " -005(SL)	1
	"	-006	"	KD-X1 J(BK) or " -006(SL)	1
	"	-007	"	KD-X1 U(BK) or " -007(SL)	1
	"	-008	"	KD-X1 G(BK) or " -008(SL)	1
	2	VPH2180-001	Cushion	for Unit	2
	3	VPE3004-026	Poly Bag	for Insth	1
	4	VPE3004-007	"	for Instruction	1
	5	TKS000501-08	Sheet		1
	6	Q04141H	Wire Clamp	for Power Cord	1
	7	VPZ4001-001	Serial Ticket		1
	8	E66416-003	Envelope	KD-X1 J/U (PX, EES)	1

JVC

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